In the specification:

Please replace the paragraph at page 1, paragraph 0002 as follows:

[0002] Figure 1 indicates an example of a laser scanning confocal microscope (100) in which an acousto-optical deflector is used to provide the line scanning of a laser spot. Such confocal laser scanning microscope is disclosed in EP-A-0 284 136 and its content is herewith included by reference.

Please replace the paragraph beginning at page 1, paragraph 0004 as follows:

[0004] Figure 2 indicates another example of a laser scanning confocal microscope (200). A dichromatic mirror 20 has been incorporated in the light path between the plano-cylindrical lens 5.1 and the lens 6. Said mirror transmits the (short wave) laser light and deflects the long-wave return light originating, for example, from fluorescence. Note that a simple change in geometry will permit the use of a dichromatic mirror that reflects the (short wave) laser light and transmits the long-wave return light. This light is passed through a correction lens 21 and focussed with an objective 22 on a spatial filter 23 which is a slit filter, as a result of which this system has confocal characteristics. In this manner, a line detector is formed with a subsequent lens 24 and a detector 26. Between the lens 24 and the detector 26 one or more band pass or cut-off filters 25 has been incorporated which has the same function as that of the band pass or cut-off filter 12. With this embodiment, return light that has a wavelength other than that of the outward light can be advantageously examined if the acousto-optical deflector has too low an efficiency for said light, i.e. brings too large an attenuation.

Please replace the Summary of the Invention at page 2, paragraph 0006 as follows:

[0006] The present invention provides [[a]] an acousto-optical deflector based laser confocal scanning microscope ~~as defined in claim 1 or in claim 2~~ modified such that fast excitation wavelength switching produces images of the same sample area at all wavelengths and a method of achieving fast multi-wavelength scanning in an acousto-optical deflector based laser confocal scanning microscope ~~as defined in claim 19 or 20~~ while maintaining scanning of the same sample area at all wavelengths. ~~Preferred embodiments are defined in the dependent claims.~~

Please replace paragraph 00010 of the Brief description of the drawings beginning at page 3 as follows:

[0010] Figure 4 is a diagram explaining the improvement in angular scan range when an Acousto-Optical-Deflector is mechanically rotated about its axis in accordance with the present invention ; and
Figure 5 shows the devices, peripheral to the laser scanning microscope, referenced in this invention.

Please replace paragraph 0017 at page 4 as follows:

[0017] A laser confocal scanning microscope according to this embodiment of the invention comprises: means, including a laser light source, for emitting laser light beams at different wavelengths, such a source may include a tuneable laser and/or an array of lasers; a beam path, which may include a rigid or flexible optical light guide/optical fibre for coupling the laser light beam to the beam path, for directing said laser light beams from said laser light beam emitting means to an object stage for supporting an object, said beam path including a first deflector including an acousto-optical deflector for effecting line scanning, at least one objective for focussing the laser light beams onto the object on said object stage, a second deflector positioned between said acousto-optical deflector and said at least one objective, for effecting frame scanning, said second deflector and said at least one objective being positioned so that return light beams from the object follow the same beam path as the laser light beams focussed onto the object up to and including the second deflector, at least one detector positioned in the return light beam path downstream said second deflector, for detecting the return light beams from the object, the object being adapted to be scanned by the laser light beams from the laser light beam emitting means and measurements being adapted to be made with said at least one detector in order to obtain images of the object, and an electronic control and imaging system adapted to control the laser light beam emitting means to emit laser light beams of different selected wavelengths and adapted to dynamically adjust the optical path by mechanical means in accordance with the selected wavelength of the laser light beams, to compensate for astigmatism and collimation changes due to the change in input beam wavelength and adapted to modify the obtained images of the object by electronic means to maintain alignment of the scan lines of the image at all wavelengths. Such an electronic control and imaging system may be

comprised of hard wired logic, a Digital Signal Processor, a microprocessor, a computer or a similar computational device.

Please replace paragraph 00018 at page 4 as follows:

[00018] A first embodiment thus describes compensation for the astigmatism and focus effects previously described using mechanical means to change the position of correction optical components within the optical path. An astigmatism lens (5.2 on the output side of the Acousto Optical Deflector) is moved in position to correct for astigmatism changes and a collimating lens (6) is moved to ensure that the beam entering a final objective is focussed by that objective to the same focal plane in the object being scanned. Remaining changes in the position of the image caused by the changes in scan line position on the object, due to deflection angle changes with wavelength changes, are compensated by using software pan, zoom and clipping of the recorded image data to maintain identical image size and position for all wavelengths.

Please replace paragraph 0021 at page 5 as follows:

[00021] A laser confocal scanning microscope according to this embodiment of the invention comprises: means, including a laser light source, for emitting laser light beams at different wavelengths, such a source may include a tuneable laser and/or an array of lasers; a beam path, which may include a rigid or flexible optical light guide/optical fibre for coupling the laser light beam to the beam path, for directing said laser light beams from said laser light beam emitting means to an object stage for supporting an object, said beam path including a first deflector including an acousto-optical deflector for effecting line scanning, at least one objective for focussing the laser light beams onto the object on said object stage, a second deflector positioned between said acousto-optical deflector and said at least one objective, for effecting frame scanning, said second deflector and said at least one objective being positioned so that return light beams from the object follow the same beam path as the laser light beams focussed onto the object up to and including the second deflector, at least one detector positioned in the return light beam path downstream said second deflector, for detecting the return light beams from the object, the object being adapted to be scanned by the laser light beams from the laser light beam emitting means and measurements being adapted to be made with said at least one detector in order to obtain images of the object, and an electronic control and imaging system adapted to control the laser light beam emitting

means to emit laser light beams of different selected wavelengths and adapted to dynamically adjust drive parameters of said acousto-optical deflector in accordance with the selected wavelength of the laser light beams, to maintain alignment of the scan lines of the image at all wavelengths. Such an electronic control and imaging system may be comprised of hard wired logic, a Digital Signal Processor, a microprocessor, a computer or a similar computational device.